

**DRAFT**

MEMORANDUM OF UNDERSTANDING  
AMONG  
THE UNITED STATES DEPARTMENT OF ENERGY  
AND  
THE GOVERNMENT OF THE REPUBLIC OF THE MARSHALL ISLANDS  
AND  
THE UTRIK ATOLL LOCAL GOVERNMENT

This Memorandum of Understanding (MOU) is entered into among the United States Department of Energy ("DOE"), the Government of the Republic of the Marshall Islands ("RMI Government"), and the Utrik Atoll Local Government ("Utrik"), collectively referred to as "the Parties."

Article 1  
Purpose

The purpose of this MOU is to establish a framework for cooperation among the Parties to facilitate DOE-assisted individual radiological monitoring of Utrikese and others, and to provide Utrik with access to and interpretation of DOE-collected environmental assessment data concerning Utrik Atoll.

Article 2  
Whole Body Counting

2.1 DOE will:

(1) Provide at a site in Majuro, Republic of the Marshall Islands, for priority use by members of the Utrik community and general use by persons living and/or working in the Marshall Islands, a whole body counter ("WBC") and associated computer-based electronics and software (the "WBC system").

(2) Perform the initial setup and calibration of the WBC system, using appropriate phantoms and NIST traceable sources.

(3) Maintain the WBC system in good operating condition, maintain quality assurance and quality control of the whole body counting data, and specify the data to be retrieved and reported.

(4) Provide Utrik and the RMI Government's Ministry of Health and Environment with education requirements and other qualification criteria that will be used to identify three Marshallese (Articles 2.2(1) and 5.1(2)) to undergo WBC operator training at a DOE-designated facility.

(5) Pay the round-trip transportation costs between the Republic of the Marshall Islands and San Francisco, California, and the lodging and related expenses (at U.S. Government *per diem* rates) of the three Marshallese selected to undergo WBC operator and radiological worker training.

(6) Train three qualified Marshallese (two nominated by Utrik and one nominated by the RMI Government's Ministry of Health and Environment) for the day-to-day operation of the WBC system and performance of related radiological monitoring tasks (including support for plutonium urinalysis testing). WBC operator technician training will include classroom instruction on basic principles of radioactivity, radiation detection and measurements, and practical factors training pertaining to WBC operation, daily WBC quality control (QC) checks, data collection, and record management.

(7) Pay the salaries of three technically-qualified Marshallese, for up to forty hours per week each, at the rate of \$5.00 per hour, to perform whole body counting and related radiological monitoring tasks under DOE supervision and in accordance with written DOE protocols.

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(8) On an as-needed basis, provide technical support or services as "troubleshooters" to WBC operator technician(s).

(9) Analyze and interpret raw WBC data (*i.e.*, body burden) and convert to annual dose and committed effective dose equivalent (CEDE).

(10) Promptly report the results of whole body counting, in writing and in easy-to-understand terms, to the individuals concerned and, subject to the protection of individual privacy rights, to Utrik (with respect to Utrikese only) and the RMI Government.

(11) Establish an electronic WBC database that tracks individuals over time. The database will include all raw WBC data collected under this MOU, assignment of internal doses, and associated assumptions and methodologies employed. WBC records will contain a digitized photo ID of each individual tested. Individual-specific data will be disclosed to the individuals concerned (or to his/her guardian) upon those persons' written request. The electronic database will be made publicly available only subject to the preservation of individuals' privacy.

(12) Submit to Utrik and the RMI Government, on an annual basis, a written report that summarizes and trends the results of WBC data generated by the radiological monitoring activities under this MOU.

(13) Consider, in consultation with Utrik and the RMI Government, establishment at a mutually-agreed future time of a WBC system at Utrik Island.

## 2.2 Utrik will:

(1) Conduct employment screening, using DOE-identified education and qualification criteria, that will identify two Marshallese to undergo WBC operator- and radiological worker-training at a DOE-designated facility.

(2) Provide logistical support, on a reimbursable basis, as DOE may request and as the DOE and Utrik agree to in writing.

(3) Ensure that two technically-qualified Marshallese keep the WBC facility open and staffed at least forty (40) hours per week, to permit on-request whole body counting service to Utrikese and others.

(4) Be responsible for obtaining any licenses or other approvals from the RMI Government for any material and equipment required for DOE-assisted radiological monitoring and surveillance, including check-sources and calibration-sources that contain low-level radioactive materials.

(5) Assist DOE in maintaining control and custody over all low-level radioactive check/calibration sources used for human radiological surveillance.

(6) Maintain close communications with DOE and DOE contractors to ensure effective coordination of DOE's activities.

(7) Provide such other logistical support and/or operations and assistance to DOE as the Parties may agree to in writing.

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## Article 3 Plutonium Urinalysis Testing

### 3.1 DOE will:

- (1) Train three Marshallese WBC operator candidates in the techniques of collecting, preserving and packaging samples for plutonium urinalysis testing. WBC technicians will be expected to support plutonium urinalysis testing conducted under DOE supervision on Utrik Atoll residents and others.
- (2) Conduct plutonium urinalysis tests on 50 Utrik Atoll residents.
- (3) Provide to Utrik a urine collection protocol.
- (4) Report promptly the results of the plutonium urinalysis, in writing and in easy-to-understand terms, to the individuals concerned.
- (5) Include the results of plutonium urinalysis in the database cited in Article 2.1(11).
- (6) Provide to Utrik and the RMI Government a written report of the results of DOE's plutonium urinalysis, subject to the protection of the tested individuals' privacy.
- (7) Conduct plutonium urinalysis retesting of any individual the result of whose urinalysis test conducted during the term of this MOU so warrants by reason of possible urine sample contamination, anomalous plutonium body burden measurement, or other cause.
- (8) Consider conducting plutonium urinalysis testing of additional Utrik Atoll residents where the data collected as a result of the testing conducted under Article 3.1(2) and 3.1(7) so warrant.

### 3.2 Utrik will:

- (1) Select the individuals who will undergo plutonium urinalysis tests in accordance with Article 3.1(2). Any Utrik Atoll resident who is at least five (5) years of age may be selected to undergo plutonium urinalysis testing.
- (2) Notify DOE in writing, within ninety (90) days of DOE's request, of the individuals selected for plutonium urinalysis.
- (3) Be responsible for ensuring that individuals selected for plutonium urinalysis testing present themselves for urine collection at the scheduled time(s) and place(s) and comply with DOE's urine collection protocol.

## Article 4 Environmental Monitoring Data

### 4.1 DOE will:

- (1) Provide scientific and technical assistance to Utrik, through Lawrence Livermore National Laboratory (LLNL), to help interpret existing LLNL environmental data and dose assessments.
- (2) Provide recommendations to Utrik concerning consumption by Utrik Atoll residents of locally-grown foods.

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(3) Conduct, subject to such terms and conditions as DOE and Utrik may agree, additional environmental monitoring at Utrik Atoll in the event of environmental remediation or resource development activities undertaken by Utrik.

4.2 Utrik will: keep DOE timely advised of any environmental remediation or resource development activities it plans to undertake at Utrik Atoll.

## Article 5 RMI Government Undertakings

5.1 The RMI Government will:

(1) Facilitate the grant of any licenses or other approvals for any material and equipment required for any DOE-assisted radiological monitoring, including equipment that emits low levels of ionizing radiation.

(2) Conduct employment screening, using DOE-identified education and qualification criteria, that will identify one Marshallese citizen to undergo WBC operator- and radiological worker-training at a DOE-designated facility.

(3) Provide DOE with reasonable advance written request(s) to participate in community or other meetings to keep the RMI Government, Utrik and the Utrikese apprised of DOE's activities.

(4) Provide such other assistance to DOE as the Parties may agree to in writing.

## Article 6 General Provisions

6.1 DOE will participate, with reasonable advance written request from the RMI Government and/or Utrik, in periodic community or other meetings for the purpose of keeping the RMI Government, Utrik, and the Utrikese people informed of radiological monitoring data and their health implications.

6.2 Any notice or other communication in connection with this MOU will be in writing. All notices, requests, and other communications under this MOU will be given to or made upon the respective parties as follows:

If to Utrik:

Senator Hiroshi V. Yamamura  
Utrik Atoll Local Government  
P.O. Box 741  
Majuro, Republic, of the Marshal Islands 96960  
Facsimile: 011-692-625-6077

Mayor Joe Saul  
Utrik Atoll Local Government  
P.O. Box 741  
Majuro, Republic, of the Marshal Islands 96960  
Facsimile: 011-692-625-6077

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with copies to:

John E. Masek, Esq.  
P.O. Box 3373  
Majuro, Republic of the Marshall Islands, 96960  
Facsimile: 011 692-625-4248

T. E. Manase Mansur  
117 Riverview Avenue  
Annapolis, MD 21401  
Facsimile: 410-224-3113

If to the RMI Government:

Minister of Foreign Affairs and Trade  
P.O. Box 1349  
Majuro, Republic of the Marshall Islands 96960  
Facsimile: 011-692-625-4979

Minister of Health and the Environment  
P.O. Box 1349  
Majuro, Republic of the Marshall Islands 96960  
Facsimile: 011-692-625-4979

If to DOE:

Mr. Frank Hawkins  
U. S. Department of Energy  
Office of International Health Programs  
Attn: EH-63/GTN/270 Corporate Center  
19901 Germantown, MD 20874-1290  
Telephone: 301-903-3149  
Facsimile: 301-903-1413

Mr. William D. Jackson  
DOE Field Operations Manager  
U.S. Department of Energy  
Pacific Area Support Office  
P.O. Box 29939  
Honolulu, HI 96820-2339  
Telephone: 808-422-9211 (office)  
808-220-4474 (cellular)  
Facsimile: 808-422-9217

6.3 Governing law: The laws and regulations of the United States will govern this MOU, as set forth in the Compact of Free Association between the RMI Government and the United States of America and in the Federal Programs and Services Agreement concluded pursuant thereto. The Parties will settle all questions relating to the MOU arising during its term by mutual agreement.

6.4 It is understood that the ability of DOE to carry out its undertakings under this MOU is subject to the availability of appropriated funds.

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Article 7  
Commencement, Amendment, Renewal and Termination

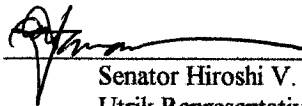
7.1 Cooperation under this MOU will commence on the date that the last signatory signs the MOU, and will continue for five (5) years.

7.2 By written agreement of the Parties, and with the concurrence of the U.S. Department of the Interior, this MOU may be amended at any time, and may be renewed for additional periods.

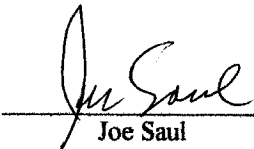
7.3 This MOU may be terminated by written agreement of the Parties, or may be terminated by any Party upon ninety (90) days written notice to the other Parties.

**ACCEPTANCE:**


Date: 12-12-2001

  
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Senator Hiroshi V. Yamamura  
Utrik Representative,  
Nitijella of the  
Republic of the Marshall Islands

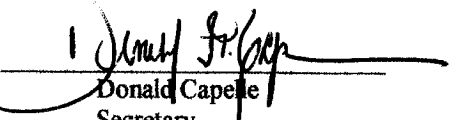
Date: 12-12-2001

  
\_\_\_\_\_  
Joe Saul  
Mayor  
Utrik Atoll Local Government

Date: 12/12-2001

  
\_\_\_\_\_  
Gerald Zackios  
Minister of Foreign Affairs and Trade  
Republic of the Marshall Islands

Date: 12/12/01

  
\_\_\_\_\_  
Donald Capelle  
Secretary  
Ministry of Health and Environment  
Republic of the Marshall Islands

Date: \_\_\_\_\_

\_\_\_\_\_  
U.S. Department of Energy

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**ACKNOWLEDGED BY:**

Date: \_\_\_\_\_

\_\_\_\_\_  
Director  
Office of Insular Affairs  
U.S. Department of the Interior